

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To: 		PCT 	
WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY			
(PCT Rule 43bis.1)			
Applicant's or agent's file reference 0000055127		Date of mailing (day/month/year) FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2004/007877	International filing date (day/month/year) 15.07.2004	Priority date (day/month/year) 24.07.2003	
International Patent Classification (IPC) or both national classification and IPC 			
Applicant BASF AKTIENGESELLSCHAFT			

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. The following document has not yet been furnished:

copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement

Novelty (N)	Claims	<u>1 - 14</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1 - 14</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1 - 14</u>	YES
	Claims	_____	NO

2. Citations and explanations:

D1: WO 03/043993 A (GRAMMENOS WASSILIOS;
 RHEINHEIMER JOACHIM (DE); BASF AG (DE);
 GEWEHR M) 30 MAY 2003 (2003-05-30)
 D2: WO 02/074753 A (RHEINHEIMER JOACHIM; BASF AG
 (DE); GEWEHR MARKUS (DE); LORENZ GISELA)
 26 September 2002 (2002-09-26)

Novelty

Document D1 discloses fungicidally effective 2-substituted pyrimidines of the formula I, including compounds in which radical R⁴ has the meaning -C(=O)NR^aR^b (cf. page 1, lines 4, 5; page 1, formula 1; page 2, line 46; page 17, line 36-page 19, line 4; pages 30-50, examples).

In view of the fact that the radical R⁴ from D1 can also have other meanings, the subject matter of independent claims 1, 6-8 and 7-14 and of dependent claims 2-5 and 9 is to be regarded as being a formally novel selection from D1.

Document D2 discloses further fungicidally effective 2-substituted pyrimidines from which the compounds of the

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formula I from claim 1 differ, however, by virtue of the fact that the substituent R⁴ from formula I of claim 1 is acyclic (cf. page 1, lines 2, 3; page 1, formula I; page 24, line 14-page 25, line 9; pages 35-44, examples).

Inventive step

A distinguishing feature is the novel selection of the group R⁴ located in the 2 position on the pyrimidine. The experimental data shows that carboxamide according to the invention has the significantly better fungicidal effect compared to N-methoxyimidoamide from D1. Moreover, the carboxylic esters used as intermediates also exhibit the better fungicidal effect (cf. description, pages 65, 66).

These compounds according to the invention have a common structural feature, namely the presence of at least one oxygen atom on the central carbon atom.

Accordingly, the objective problem underlying the new claims is to be regarded as being the provision of compounds with improved fungicidal effect within the scope of the general teaching from D1, of intermediates with a fungicidal effect and of a method for their preparation.

The solution to this problem consisted in specifically selecting, from the compounds of D1, the compounds which have the abovementioned common structural feature.

Since it was surprising that this selection leads to compounds with an improved fungicidal effect, the

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involvement of an inventive step must be acknowledged for
the new claims.

Industrial applicability

There is no doubt that the subject matter of the present
claims 1-9 is industrially applicable.